A New Role for Accountants:

Accounting for Environmental Expenditures

CLARK E. CHASTAIN

Today, from almost every segment of society, one hears demands that industry become more socially responsible. A heightened awareness, and pursuit, of social reponsibility will require that industry commit additional economic resources to this end.[1] If industry does this, it is very likely that the rate of return on capital employed will be reduced, thus worsening the index by which managerial effectiveness is measured. What, then, is the incentive for business management to undertake activities in the social responsibility sphere—and to what extent—when it may feel that its effectiveness is still primarily judged by the reported return on investment?

The objective of social responsibility is to improve the quality of life. This objective includes minimizing environmental pollution, promoting women, blacks, and other minorities into executive roles, providing adequately for employee health and safety, protecting consumers and maintaining high standards for consumer products. The problem of achieving a balance between economic and social goals should be of major concern to accountants, for they are charged with measuring economic and social achievements and reporting the results to parties interested in business activities.

This article addresses itself to the pressures society is placing upon organizations for environmental pollution control, how the related information is communicated to interested individuals and groups, the impact on the accounting profession, and suggestions as to the role accountants should play.

Many organizations have begun to report their pollution control costs, and the result is staggering. In the steel industry, pollution control runs as high as 25 percent of total capital investment.[2] Other companies report that pollution abatement measures require from one to four percent of sales revenue,[3] and between three and ten percent of total capital investment.[4] Between 5 and 7 billion dollars is spent annually in the United States to curb air and water pollution, with much of the money concentrated in industrial pollution abatement measures.[5]

These expenditures are not limited to a small range of industries, either. For example, a forestry and wood products company expended approximately $15.2 million for antipollution efforts in 1970. An international petroleum and petro-chemical company estimated

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its outlays for air and water pollution control at $11 million in 1970. A second integrated petroleum company reported antipollution expenditures in excess of $263 million during 1966-68, and a chemical company reported costs of $45 million per year for pollution facilities and for related operation and maintenance.[6]

These data are important for accountants because they have a material impact on the measurement and the financial reporting of assets, liabilities, revenues, expenses, income, and owner's equity.

Social Pressures on Business

The general attitude of society toward the costs of controlling environmental pollution is changing. In the past, these costs have generally been considered public costs. But because of new governmental regulation at all levels, changing values on the part of the public at large, and some voluntary effort by firms, these costs are now considered the responsibility of the business that disturbs the environment. It has been urged that accounting respond to these changing conditions and report pollution control costs in the financial statements of organizations as so-called *social cost conversion.*[7]

Users of financial statements need comprehensive data on environmental problems to make decisions and to understand and evaluate the reported financial information. Indirect users who often require environmental effects information include financial analysts, stock exchanges, lawyers, regulatory authorities, financial reporting agencies, trade associations, and a variety of private social groups.

Stockholders and potential investors are particularly interested in information on pollution measures so that they can make meaningful comparisons of performance among organizations and industries. They need complete disclosure of these data in the financial statements. Organizations within industries are devoting funds and effort in greatly varying amounts to control pollution. Some companies are controlling pollution at the legally required and acceptable level, or even higher, while other firms are largely ignoring current requirements. In addition, some businesses pollute the environment much more than others. Thus, the relevant data needed varies by organization, by industry, and by location.

Unfortunately, the traditional reporting methods largely exclude complete environmental effects information. They often show the firm which is polluting and exploiting its environment the most as being the most successful. Such a firm may not have a pollution abatement program or may have one that is only marginally effective. The firm which is conscientious in its pollution abatement programs may show lower net income, lower working capital, and other financial effects which make it appear, by contrast, less successful.

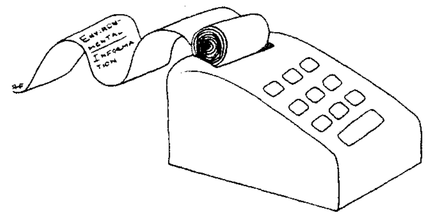
Society is placing pressures on organizations by selectively allocating its resources to those which are socially conscious and committed to improving the quality of life. Investors may rank the degree of social awareness, along with economic achievement, as a major standard of a firm's performance.

A committee of the American Accounting Association has suggested that investors "may wish to avoid some investments entirely for ethical reasons or because of personal biases."[8] A growing number of investors—led by nonprofit institutions such as churches, foundations, and universities, which are sensitive to social issues and non-economic values—are looking for "clean investments." The United Church of Christ has a sixty-one page booklet, entitled "Investing Church Funds for Maximum Social Impact," that encourages investment in companies it regards as socially responsible. Some mutual funds have also established portfolio policies which channel their resources into organizations which they think are socially responsible.

Investor pressure for socially responsible behavior by business firms is evident in the following quotation from a prospectus of the Dreyfus Fund:

> The Management of the Fund believes that investment by the private sector can become a positive force to encourage social progress in America. The Fund will invest in companies which, in the opinion of the Fund's Management, not only meet traditional investment standards, but also show evidence in the conduct of their business, relative to other companies, in the same industry or industries, *of contributing to the enhancement of the quality of life in America* as the nation approaches the Third Century of its existence. In making this latter assessment, the Fund intends, as a matter of fundamental policy, to consider performance by companies in the areas of (1) *the protection and improvement of the environment and the proper use of our natural resources,* (2) occupational health and safety, (3) consumer protection and product purity and (4) equal employment opportunity. (Emphasis added.)[9]

Stockholders stand in a dual position in corporations which are undertaking costly social responsibilities. They may gain satisfaction from the fact that the organizations in which they hold an interest are making attempts to improve the quality of life, but those very efforts may simultaneously reduce their income and dividends. In a recent survey of midwest stockholders, a majority of 87.4% (265 out of 303) agreed that they should support their corporations by not selling their stocks when more funds were voluntarily spent on environmental control than regulations required.[10] A majority also agreed that social responsibility and income should be equal goals, even though this means accepting a lower rate of return on investment. But the same respondents were not as eager to exercise social responsibility in hiring blacks or women for managerial positions.



Society is placing legal demands upon industries to meet certain levels of environmental compliance and to report their progress to the government. Enforcement agencies need compliance information in order to determine the progress toward pollution objectives and to appraise the related economic costs. Accountants, as information transmitters, are responsible for packaging environmental control data for enforcement agencies. Normally the reporting would be made through general financial statements, but special reports and non-financial data are also often required. At the national level, the reporting requirements of the U. S. Securities and Exchange Commission require the communication of financial data for the issuance of securities. The National Environmental Protection Agency also requires detailed information, much of which is non-financial in nature.

The general public also is expressing its concern for environmental improvement. The immediate enforcement of some regulations may sometimes require the closing or reduction of certain industrial operations. This can pose a crisis for small cities. Residents are thus presented with a painful choice between meeting economic needs and meeting environmental standards. In such event, residents are concerned with the number of jobs that may be lost through enforcement measures, and may worry over the decline of local purchasing power and economic activity. Non-financial data can disclose the number of jobs affected by a given environmental measure; financial data can indicate the costs of compliance. Community members can then weigh the satisfaction gained from a more pleasant environment against the costs of obtaining it. Only then can they arrive at rational choices among the benefits of economic and social projects and perceive the returns from each.

Management can solve its dilemma of priorities only when the results of each endeavor, both economic and social in orientation, are adequately measured and reported, so that society can appraise the merits of each.

Current Status of Communication

Businesses' environmental control activities are usually described in annual reports and prospectuses in three places:

(1) the president's letter to stockholders in annual reports,

(2) the text of annual reports or other documents, but not as a part of the financial statements,

(3) the financial statements or in footnotes or other supplementary material included as part of them.

Norman Pope, in his master's dissertation entitled "Accounting for Pollution Costs," studied 125 annual reports for 1969 and 136 for 1970.[11] These reports were selected from five industries alleged to be the heaviest industrial polluters.[12] Of the 261 annual reports, he found that most of them reported descriptive information on ecology in the president's letter to stockholders or in the body of the document, but only 18 (6.9%) disclosed this information in the financial statements or in related footnotes. Most of the financial statement disclosures were made through footnotes, usually referring to contingent liabilities arising from regulatory requirements.

Professors Williams, Caldwell, and Needles have not only analyzed the financial reporting of pollution control costs, but they have also observed the trend between 1969 and 1970.[13] This was a period in which anti-pollution expenditures increased significantly. The researchers found that slightly over one-half of the 261 annual reports studied included information on the cost of compliance or other references of this nature in the letters to stockholders in both years. For example, I. E. Dupont de Nemours and Company, in its letter to stockholders in 1970, provided compliance dollar information so the reader could determine the impact on the financial statements:

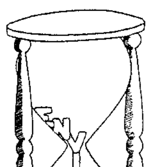
> Worldwide, Dupont and its subsidiaries and affiliated companies have an operating or authorized investment in pollution control facilities of nearly $190 million. (U. S. investment increased $22 million in 1970, to a total of $168 million.) Operating and maintaining these facilities, in the U. S. and other countries, cost approximately $45 million in 1970. The equivalent of nearly 1,500 full-time employees are engaged in pollution control work and anti-pollution research.

Of the five industries studied, the references to pollution control were found in the text of the annual reports for 68.5% of these organizations in 1969 and 82.6% in 1970. This represents a 14.1% increase in the reporting of environmental data in the text of annual reports in 1970 over 1969. A substantial number of the references in 1970, greater than the previous year, contained specific dollar amounts.

Williams and his colleagues found only limited disclosure in the financial statements or related material. 5.2% of the reports in 1969 and 5.3% in 1970 contained some reference of this nature. All of the financial statement references to pollution control measures were in the footnotes, or supplementary to the financial statements. With only one exception, no references to environmental control matters were found in the auditors' reports. There were frequent references to pending litigation. The excerpt below, from a 1970 report of the Consolidated Edison Company of New York, Inc., is illustrative:

> . . . there are several legal actions pending against the company. A purported class action is pending in the Supreme Court of the State of New York seeking injunctive relief and $4,001,000,000 for damages suffered as a result of air pollution from the company's generating plants. Counsel for the company is of the opinion that the injunctive is not a proper class action under the reported decisions as to New York law. The Attorney General of the State of New York has also commenced an action against the Company alleging that Indian Plant No. 1 is damaging the ecology of the Hudson River. The complaint seeks damages in the amount of $5,000,000 and an injunction against the operation of this plant in such a manner as to damage the river.

Accounting Trends and Techniques now includes a section on social awareness expenditures.[14] The examples quoted in 1971, describing environmental programs and information, are all in letters to stockholders or the texts of the annual reports, with one exception. International Paper Company, in 1970, deducted an extraordinary item of $39.6 million, net of applicable income tax, from "earnings before extraordinary items" of $82.5 million, and reported net earnings of $42.9 million. The extraordinary deduction was partially to anticipate losses on the expected abandonment of facilities which management believed could not be made to economically conform to environmental standards.



The U. S. Securities and Exchange Commission (SEC) calls for the disclosure of material information

> . . . when compliance with statutory requirements with respect to environmental quality, e.g., various air, water, and other anti-pollution laws, may necessitate significant capital outlays, may materially affect the earning power of the business, or cause material changes in the registrant's business done or intended to be done.[15]

A group of six filings with the Commission during the last half of 1971 was examined for the disclosure of ecology data. Most disclosures were in the text or body of the filed documents, with no explicit references in the financial statements. One exception was noted. Investment Corporation of Florida disclosed the expected pollution abatement expenditures for its subsidiary, Riverton Corporation, in the notes to the financial statements.[16] This information was under a footnote headed "Commitments and Contingencies," and was certified by the public accountants. No SEC filings were found in which accounts restricted to environmental costs were separately shown on the balance sheet or income statement.

It is not practical to list the many regulatory requirements for environmental control. The effect of these environmental regulations differs with the type of industrial activity and its location. Washington and Minnesota, for example, are two states which strictly enforce their standards; North Carolina and Wisconsin, by contrast, are more lenient.[17] Accountants must begin to work with attorneys, pollution control officers, engineers, other professionals, and organizational staffs specializing in environmental affairs in order to quantify the financial import and legal consequences of environmental issues.

Impact on Accountants

The independent public accountant is under pressure to extend his audit program and procedures.[18] He must become familiar with regulatory requirements, determine the extent of the firm's compliance, and attest to the specific effects of these requirements on financial statements.

Public accountants can aid management in coping with accounting and financial problems—especially those which are internal or regulatory—which arise from environmental standards. For example, they can:

(1) consult with legal counsel and other professionals on environmental standards and compliance, develop environmental information systems, prepare financial analyses of different methods of pollution abatement, project the effects on pricing decisions, prepare data for interim and long-term financing, and prepare pro forma statements; (2) aid in the development of a compliance budgeting system; and (3) participate as expert witnesses in litigation cases and in appearances before environmental control officials.

Society is placing increasing demands on accountants to share their expertise with other professional disciplines in order to solve societal problems. The solution of many complex problems requires special contributions from each discipline by its practitioners.

Managerial accountants are already concerned with many of these problems, especially those affecting the preparation of financial reports. Many environmental costs (formerly social costs), must now be incorporated in product costs. These costs, in turn, must be incorporated into standard costs, budgets, and forecasts; and must be considered in planning for new plant locations. The internal accountant must determine the costs involved in achieving various levels of environmental compliance, especially the required level, and compute these costs under different technical methods of compliance. A measure of control costs at different levels of volume is needed. Costs associated with irresponsible managerial action or noncompliance—penalties, fines, property damage, litigation, shutdowns, and excessive production outlays—probably should be accounted for as losses and not as production costs.

As a result of the increased emphasis society is placing on social accountability for improving the quality of life, the accountant faces new measurement and disclosure problems. In addition to the new measurement techniques that are necessary and the teamwork with other professionals required, he may have to extend his reporting model to include statements of social activities forecasted, and of social operating results. Both independent auditors and internal accountants are likely to become involved in the social audit.

The Role of the Accountant

Society's pressures on organizations for disclosure of the effects of social efforts in their financial statements place the behavioral relationship between society and accounting under stress today.[20] This stress is strong enough to change prior relationships, affecting the accounting profession today, and influencing its future direction as well. It seems most likely that the accounting profession will meet these new social demands adequately by extending its services and its traditional mode of communication. As a result, accounting itself will progress through further significant development. The interdependent behavioral relationship between society and accounting will surely persist. We can expect a response to the progress in accounting with changes, not now predictable, which will further improve the quality of our society.

Specifically, what should be the accountant's role in response to these social demands? It should be a significantly expanded one for the following reasons:[21]

1. Much environmental information is of a quantitative financial nature that significantly affects asset valuation, costs, revenues, expenses, liabilities, and income. Accountants must consider this information so that the financial position and performance of firms are accurately and adequately reported.
2. Although many environmental costs have been considered traditionally as social costs and not as private production costs for the firm, costs of maintaining the environment are now generally viewed as the responsibility of the company concerned. This evolution in social philosophy is placing environmental information, both financial and non-financial, squarely within the realm of the accounting function.
3. Accounting has evolved to its present status as a profession through meeting the need for measuring economic and financial activity and communicating this information to society. Society is now demanding environmental information from organizations. Accountants must communicate needed ecological information to interested parties in order to continue to receive professional support from society.
4. It is probable that in the not too distant future, reporting of environmental information will be part of generally accepted accounting and auditing standards.
5. If accountants continue to take a passive, indirect, role in reporting ecological information, they may actually aid and abet the worst pollution offenders. This is because offending organizations report relatively larger net incomes, larger current assets, lower liabilities, and other relatively greater measures of success, in contrast to those companies which make substantial financial commitments to improving the environment. Such action is not in line with the desired goals of society. Through aiding such an undesirable situation, the status of accounting would probably be lowered, and more desirable practices would probably be forced upon the profession.
6. Accountants have a chance, at this time, to expand their services and increase their economic rewards. For example, increased opportunities for accountants are now available in management service activities. Expanded audit programs are an example of such opportunities. The team approach necessitated by many environmental problems—requiring working with various other professions—is likely to lead to increased recognition and expanded horizons for accountants.

NOTES

1. For example, see "Changing Times," *The Wall Street Journal*, October 26, November 3, 12, 19, 29, December 9, 16, 1971; a series of seven articles addressed to the role of business during a period of social revolution.
2. Gene Bylinsky, "The Mounting Bill for Pollution Control," *Fortune*, July, 1971, p. 130. Charles G. DePero, "Ecology Must Be Linked to Economics," *Industrial Development*, March-April, 1971, pp. 14-16, has stated similar percentages. He notes that pollution outlays were 4.4% of the capital budgets for manufacturing firms in 1971, absorbed 10% for a "good" number of firms, and in some cases run as high as 30%.
3. "Pollution Price Tag: 71 Billion Dollars," *U.S. News and World Report*, August 17, 1970, p. 41.
4. "Stepped-up War on Pollution," *U.S. News and World Report*, January 11, 1971, p. 21.
5. *Fortune*, July 1971, *op. cit.*

6. National Industrial Pollution Control Council Staff Memorandum, "What Companies Are Doing to Curb Pollution," *Industrial Development,* March-April, 1971, p. 16; an extended list of firms and industry statistics are quoted.

7. Floyd A. Beams and Paul E. Fertig, "Pollution Control Through Social Cost Conversion," *Journal of Accountancy,* November, 1971, p. 37.

8. See the report of the 1966-1968 Committee on External Reporting, *Accounting Review,* LXIV, supplement (1969), p. 81.

9. The Dreyfus Third Century Fund, Inc., Prospectus, February 22, 1972.

10. D. R. Domm, et al., "Social Responsibility: Contemporary Stockholder Values and Corporate Lag." Proceedings of the 15th Annual Midwest Management Conference (Madison, Wis., 1972), pp. 1-7.

11. Texas Tech University, Lubbock, Texas, 1971.

12. The five industries were chemicals, energy, forestry and packaging, metals, and utilities.

13. Doyle Z. Williams, James C. Caldwell, Belverd E. Needles, "Reporting Pollution Control Costs in Annual Reports," (unpublished paper, Texas Tech University, May 1972).

14. American Institute of Certified Public Accountants, *Accounting Trends and Techniques,* 1971, pp. 187-188.

15. The U.S. Securities and Exchange Commission, *Securities Act of 1933,* Release No. 5170, July 19, 1971.

16. Investment Corporation of Florida, Prospectus, November 2, 1971, p. 57.

17. Elizabeth Haskell and Victoria Price, *State Environmental Management: A Case Study of Nine States* (New York: Praeger, forthcoming, 1973).

18. Stanley L. Cohen, "Ecology for the Practicing C.P.A.," prepared for the AICPA Committee on Ecology, October 1971, p. 12. The AICPA Committee on Ecology is surveying the impact of environmental programs and information on the work of public accounting firms.

19. See A. Wayne Corcoran and Wayne E. Seininger, Jr., "Financial Statements — Who Needs Them?" *Financial Executive,* August 1971, pp. 45-47; Glenn A. Welsch, "Some Evolving Issues in Financial Reporting," *The Virginia Society of Certified Public Accountants, 1970,* p. 7; David F. Linawes, "The Accounting Profession and Social Progress," *Journal of Accountancy,* July, 1973, pp. 32-40.

20. See Clark E. Chastain, "Organizations and the Environment: Behavioral Effect on Accounting," *Woman CPA,* April, 1973, pp. 5-8.

21. See the Report of the Committee on the Environmental Effects of Organization Behavior, American Accounting Association, *Accounting Review,* supplement March, 1973, pp. 72-114. These points, somewhat modified here, were developed by the author from the Committee's report.